



8120-08-P

TENNESSEE VALLEY AUTHORITY

Shawnee Fossil Plant Coal Combustion Residual Management

AGENCY: Tennessee Valley Authority.

ACTION: Issuance of Record of Decision.

SUMMARY: This notice is provided in accordance with the Council on Environmental Quality's regulations and Tennessee Valley Authority's (TVA) procedures for implementing the National Environmental Policy Act (NEPA). TVA has decided to close the Shawnee Fossil Plant (SHF) Special Waste Landfill (SWL) and Ash Impoundment 2 and construct a new process water basin (PWB). A notice of availability (NOA) of the Final Supplemental Environmental Impact Statement (SEIS) for Shawnee Fossil Plant Coal Combustion Residual (CCR) Management was published in the *Federal Register* on August 31, 2018. The Final SEIS identified TVA's preferred alternative as Alternative C – Closure-in-Place and Regrading of the SWL and Ash Impoundment 2 and Construction of a New PWB. TVA's decision would achieve the purpose and need to manage the disposal of CCR materials on a dry basis and to meet the U.S. Environmental Protection Agency's 2015 CCR regulations, as well as the Commonwealth of Kentucky's regulations.

FOR FURTHER INFORMATION, CONTACT: Ashley Pilakowski, Project Environmental Planning, NEPA Specialist, Tennessee Valley Authority, 400 W. Summit Hill Drive Knoxville, TN 37902; telephone 865-632-2256, or by email aapilakowski@tva.gov. The Final SEIS, this Record of Decision and other project documents are available on TVA's website <https://www.tva.gov/nepa>.

SUPPLEMENTAL INFORMATION:

In December 2017, TVA issued the *Shawnee Fossil Plant Coal Combustion Residual Management Final Environmental Impact Statement* (Final EIS). The year-long assessment called for closing both the SWL and Ash Impoundment 2, as well as building and operating a new lined landfill to store dry CCR waste produced by SHF in the future. In the Final EIS, TVA identified its preferred alternative as Alternative B – Construction of an Onsite CCR Landfill, Closure-in-Place of Ash Impoundment 2 with a Reduced Footprint, and Closure-in-Place of the SWL. On January 16, 2018, TVA issued a record of decision (ROD) to implement construction of the new dry CCR landfill, and elected to further consider the alternatives regarding the closure of the SWL and Ash Impoundment 2 before making a decision. The Final EIS and ROD can be viewed here: <https://www.tva.gov/nepa>.

TVA prepared the SEIS to further analyze the alternatives for closure of the SWL and Ash Impoundment 2. Additionally, while a preliminary location for the PWB was considered in the 2017 Final EIS, upon further investigation TVA chose to consider additional alternative locations for the PWB in the SEIS.

The purpose and need of ceasing CCR management operations at both the SWL and Ash Impoundment 2 and closing them was, and continues to be, to manage the disposal of CCR materials on a dry basis and to meet the 2015 CCR regulations, as well as the Commonwealth of Kentucky's regulations.

Alternatives Considered

TVA reevaluated all of the closure alternatives previously presented in the Final EIS, including those previously eliminated from consideration. The majority of the closure alternatives remained eliminated as evaluated in the Final EIS. However, TVA decided to reconsider previously eliminated Alternative 4b Closure-in-Place of both facilities with general grading within the permit boundary.

Alternative 4b was initially eliminated because it “would not improve stability.” This did not mean that Alternative 4b would cause instability; rather, it merely did not improve stability. Ash Impoundment 2 and the SWL are stable and in full compliance with all standards and regulations; thus closure-in-place with general grading would not destabilize either facility. Though not described in the 2017 Final EIS, TVA originally anticipated that Alternative 4b would require import of a large quantity of borrow material from an offsite source, more material than was potentially available from the Shawnee East Site. This caused Alternative 4b to be ranked lower on constructability and environmental considerations than other alternatives. Thus, it was eliminated from consideration in the Final EIS.

As TVA continued to review the closure alternatives, TVA identified the potential to beneficially reuse CCR from the SWL for grading the closed facilities. TVA is currently conducting a demonstration study to determine the feasibility of this proposed beneficial reuse of CCR in place of borrow material. The beneficial reuse of CCR for closure would be subject to Kentucky Department for Environmental Protection approval. TVA also identified the potential for the use of a ClosureTurf® or equivalent system as a cap for Ash Impoundment 2 and SWL. This type of cap system consists of a special engineered turf and sand fill and would, therefore, also require less borrow material.

Additionally, for grading, Alternative 4b would move approximately 1 million cubic yards of CCR less than Alternative B from the 2017 Final EIS. This CCR would be dry CCR from the SWL as opposed to wet CCR (which would have to be dewatered) from Ash Impoundment 2. Therefore, the closure could be completed with greater simplicity, less risk to workers, more quickly, and with a lower cost than Alternative B. Additionally, because Alternative 4b would involve movement of less CCR, air quality impacts of this alternative would be less than the air quality impacts of Alternative B in the 2017 Final EIS. Thus, the air quality impacts associated with this alternative are less than, and

therefore bracketed by, the air quality analysis as presented in the Final EIS for Alternative B. For all these reasons, TVA found that Alternative 4b scored better on constructability, design considerations, schedule, and economics than many of the other alternatives, including Alternative B in the 2017 Final EIS. Therefore, TVA elected to carry Alternative 4b forward for analysis in this SEIS. Alternative 4b became the new Alternative C in the SEIS.

At the same time that Alternative 4b became a higher scoring alternative in TVA's reanalysis, TVA determined that Alternative B Closure-by-Consolidation in the 2017 Final EIS would require over-excavation of native materials within the area from which materials are removed/consolidated to confirm complete removal of CCR. Approximately one foot of over-excavation is assumed to be necessary. This modified alternative, which includes over-excavation, is included in this SEIS as Alternative B.

Based on TVA's re-evaluation of the preliminary alternatives analysis, as described above, TVA identified two feasible action alternatives for future CCR management at SHF, in addition to a No-Action alternative (Alternative A), which served as a baseline.

Alternative A – No Action. Under the No Action Alternative, TVA would continue current plant operations and not cease operations at its SWL and Ash Impoundment 2 (i.e., neither facility would be closed) and no closure activities (i.e., installing a cover system to align with closure activities) would occur. Additionally, TVA would not construct and operate a new PWB. The existing associated impoundments would continue to be operated as currently permitted until completion of the new CCR landfill. Under the No Action Alternative, SHF's operations likely would not comply with the CCR Rule; therefore, this alternative would not meet the purpose and need for the proposed actions and is not considered viable or reasonable. It does, however, provide a

benchmark for comparing the environmental impacts of implementation of Action Alternatives B and C.

Alternative B – Closure-in-Place by Reduced Footprint of the Special Waste Landfill and Ash Impoundment 2 and Construction of a New Process Water Basin.

Under Alternative B, TVA would close Ash Impoundment 2 in place by removing portions of ash in the northwest corner of the impoundment and consolidating this in another portion of the footprint. As part of the re-evaluation of alternatives, TVA identified that this alternative (formerly Alternative B in the 2017 Final EIS) would also require approximately one foot of over-excavation of native materials across the area from which materials are removed/consolidated to confirm complete removal of CCR. Due to the unknown nature of underlying material, over-excavation of significantly more than one foot could be required and could potentially include other remediation measures which cannot be defined at this time. The SWL and remaining Ash Impoundment 2 (including the dredge cell) would be covered and capped. This alternative would also include the construction of a lined process water basin to receive plant flows and allow for operations to cease at Ash Impoundment 2.

Alternative C – Closure-in-Place and Regrading of the Special Waste Landfill and Ash Impoundment 2 and Construction of a New Process Water Basin. Most activities would be the same under Alternative C as described previously for Alternative B. However, under Alternative C, the remaining ash in the northwest corner of Ash Impoundment 2 would not be removed and consolidated and no native material would be excavated. Instead, both the SWL and Ash Impoundment 2 would be closed-in-place and regraded with materials redistributed to establish appropriate drainage and stability. New storm water outfalls would be installed along the perimeter of the facilities to discharge at elevations at or above the 100-year flood elevation.

Environmentally Preferable Alternative

Alternative A (No Action) would result in fewer environmental impacts than Alternative B and C. However, Alternative A does not meet the purpose and need for the project as continuing current operations would not promote the future management of dry CCR at SHF, and would not meet the federal regulatory requirements for closing ash impoundments including EPA's CCR Rule.

The environmental impact differences between Alternatives B and C are minor. Alternative B may have slightly more beneficial impacts with regard to groundwater; however, Alternative C would achieve the purpose and need of the project and calls for less movement of CCR material and less dewatering than Alternative B resulting in greater stability, less impacts to air and less risk to worker safety. Consequently, Alternative C could also be completed sooner and for a lower cost than Alternative B.

Impacts associated with the construction and operation of a lined process water basin to handle plant flows would be the same under Alternatives B and C.

The beneficial impacts to groundwater, which environmentally advantage Alternative B over Alternative C, are not substantive enough to outweigh the benefits associated with air quality, constructability, design considerations, schedule, and economics.

Under Alternative B and C, there would be minor impacts to land use, prime farmlands and soil, surface water, vegetation, wildlife, threatened and endangered species, and wetlands. Minor impacts to land use include conversion of undeveloped land to industrial use. Borrow material may be required for closure activities resulting in minor impacts to soils. Alterations of the wet-weather conveyance and storm water flow are minor impacts to surface water. Disruption of habitat during closure and construction activities and conversion of undeveloped land to industrial result in minor impacts to vegetation, wildlife, and threatened and endangered species. Minor impacts are

associated with conversion of 0.26 acre of wetlands. There would be no impacts to cultural resources. Impacts under Alternative C would be slightly less than those described under Alternative B.

Public Involvement

On November 1, 2016, TVA published a Notice of Intent in the *Federal Register* announcing that it planned to prepare an EIS to address the potential environmental effects associated with ceasing operations at both the SWL and Ash Impoundment 2, and constructing, operating, and maintaining a new CCR Landfill at SHF. TVA hosted an open house scoping meeting on November 15, 2016, at the Robert Cherry Civic Center in Paducah, Kentucky. The Draft EIS was issued on June 8, 2017, and TVA hosted a public meeting on June 22, 2017, at the Robert Cherry Civic Center in Paducah, Kentucky. The Final EIS was issued on December 8, 2017, and a ROD was signed on January 16, 2018. Public comments and TVA's responses are included in Appendix I of the Final EIS.

The NOA for the Draft SEIS was published in the *Federal Register* on May 4, 2018, initiating a 45-day public scoping period, which concluded on June 18, 2018. In addition to the notice in the *Federal Register*, TVA sent notification of the availability of the Draft SEIS to local and state government entities and federal agencies; published notices regarding this effort in local newspapers; issued a press release to media; and posted the NOA on the TVA Website. TVA accepted comments submitted through mail and email. TVA received a total of 19 comments from 6 commenters. Summarized comments and TVA's responses are included in Appendix E of the Final SEIS.

The NOA for the Final SEIS was published in the *Federal Register* on August 31, 2018.

Decision

TVA has decided to close the SWL and Ash Impoundment 2 in place with regrading of both facilities and to construct a new PWB (Alternative C). These actions would achieve the purpose and need of the project and call for less movement of CCR material and less dewatering and would result in fewer air quality impacts than Alternative B, while also potentially being completed sooner and for a lower cost than Alternative B.

Mitigation Measures

TVA would use appropriate best management practices during all phases of impoundment closure and construction and operation of a process water basin.

Mitigation measures, actions taken to reduce adverse impacts associated with the proposed action, include:

- Final drainage for the temporary treatment basin (if utilized) would be routed to existing or new discharge outfalls and comply with the Kentucky Pollutant Discharge Elimination System permit to ensure that no adverse impacts to surface waters would occur. Mitigation measures would be identified, as needed, to ensure the discharges meet permit limits. This may or may not require a permit modification.
- Prior to disturbing wetland and surface water features within the process water basin project site, TVA would obtain a Clean Water Act Section 404 permit and a Kentucky Division of Water 401 Water Quality Certification. Where impacts to these features cannot be avoided, TVA would mitigate impacts in accordance with the Section 404 permit and/or Water Quality Certification as determined in consultation with the U.S. Army Corps of Engineers and Kentucky Division of Water.

- Tree removal would occur in winter months (between November 15 and March 31) outside breeding season, and would be tracked, documented, and reported to the U.S. Fish and Wildlife Service.

Dated: October 22, 2018

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